DETAILED OFFICE ACTION

Interview Summary

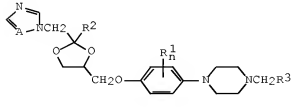
Applicants' representative, Ms. Yellina Libby, called on 9/28/2011, to report that the Advisory Action mailed on 09/01/2011 was issued in error, because Office Action mailed on 02/02/2011 was a Non-Final Rejection. The error occurred because the Office Action mailed on 02/02/2011 was incorrectly identified as a "Final Rejection." Accordingly, this Office Action is being issued in order to withdraw the Advisory Action erroneously mailed on 09/01/2011 and to issue this Non-Final Rejection.

Rejections Under 35 USC 102

The following is a quotation of the appropriate paragraphs of 35 USC 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-11, 13, 14, 31-36 and 40 are rejected under 35 USC 102(b) over Kampe, et al., US 4859670, issued 19890822.



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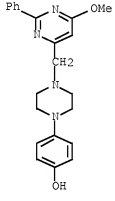
Formula I Compositions [R1=C1-3 alkyl, F, Cl; R2 = naphthyl, thienyl, halothienyl, (substituted) Ph; Y=(substituted) phenylpyrimidinyl, phenylpyridyl, quinolyl, isoquinolyl; A=CH, N; n=0-2] were prepared as medicinal fungicides. See especially compositions of RN 111921-21-2, Phenol, 4-[4-[(6-methoxy-2-phenyl-4-pyrimidinyl)methyl]-1-piperazinyl]-,



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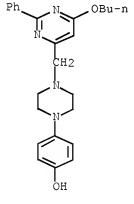
111921-25-6, Phenol, 4-[4-[(6-butoxy-2-phenyl-4-pyrimidinyl)methyl]-1-piperazinyl]-,



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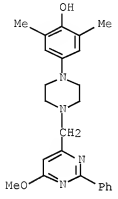

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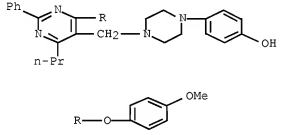

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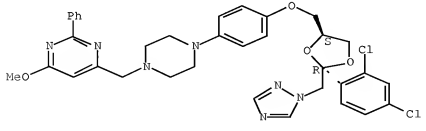
111920-67-3, Pyrimidine, 4-[[4-[4-[[(2R,4S)-2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]methyl]-6-methoxy-2-phenyl-, rel-,



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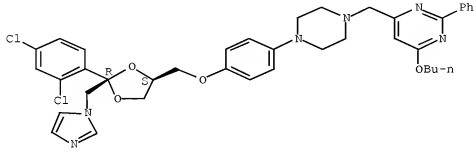
111920-68-4, Pyrimidine, 4-butoxy-6-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-

ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]methyl]-2-phenyl-, cis-,



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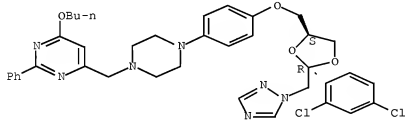
111920-69-5, Pyrimidine, 4-butoxy-6-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]methyl]-2-phenyl-, cis-,



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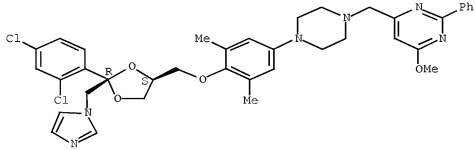
And 111920-75-3, Pyrimidine, 4-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)- 1,3-dioxolan-4-yl]methoxy]-3,5-dimethylphenyl]-1-piperazinyl]methyl]-6-methoxy-2-phenyl-, cis-,

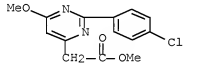


, as medicinal fungicides.

Response To Applicants' Remarks of 12-20-2010

In order to make the present rejection more understandable, the structures of the relevant compositions are illustrated above. As one of ordinary skill in this art can plainly see, each of the above Kampe compositions anticipates the present claims.

Claims 1, 11, 13, 31 and 40 are rejected under 35 USC 102(b) over Howe, et al., J. Med. Chem. (1972), 15(10), 1040-5, describing compositions of RN 19899-98-0, 4-Pyrimidineacetic acid, 2-(4-chlorophenyl)-6-methoxy-, methyl ester,



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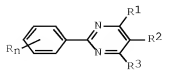
as an anti-inflammatory.

Response To Applicants' Remarks of 12-20-2010

In order to make the present rejection more understandable, the structures of the relevant compositions are illustrated above. As one of ordinary skill in this art can plainly see, the above Howe compositions anticipate the present claims.

Claims 1-6, 8-11, 13, 14 and 31-36 are rejected under 35 USC 102(b) over Seiler, et al., EP 136976, published 19850410.



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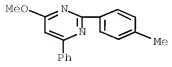
The phenylpyrimidines I (R = H, halo, NO2, CN, OH, alkyl, etc.; R1 and R2 = H, halo, alkyl, alkoxyalkyl, etc.; R3 = H, halo, alkyl, haloalkyl, or Ph) are plant growth regulators. See especially compositions of RN 77232-23-6, Pyrimidine, 4-methoxy-2-(4-methylphenyl)-6-phenyl-,



Response To Applicants' Remarks of 12-20-2010

In order to make the present rejection more understandable, the structures of the relevant compositions are illustrated above. As one of ordinary skill in this art can plainly see, the above Seiler composition anticipates the present claims.

Rejections Under 35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

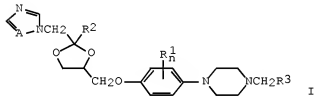
This application currently names joint inventors. In considering patentability of claims under 35 U.S.C. 103(a), the examiner presumes the subject matter of the various claims was commonly owned when any inventions covered therein were made absent any contrary evidence. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the

time a later invention was made in order for the examiner to consider applicability of 35 USC 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 USC 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6, 8-11, 13, 14, 31-36 and 40 are rejected under 35 USC 103(a) over Kampe, et al., US 4859670, issued 19890822.



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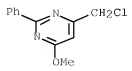
, as discussed above. Compositions of formula I [R1=C1-3 alkyl, F, Cl; R2 = naphthyl, thienyl, halothienyl, (substituted) Ph; Y=(substituted) phenylpyrimidinyl, phenylpyridyl, quinolyl, isoquinolyl; A=CH, N; n=0-2] were prepared as medicinal fungicides. See especially compositions of RN 111921-72-3, Pyrimidine, 4-(chloromethyl)-6-methoxy-2-phenyl- ,



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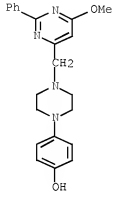

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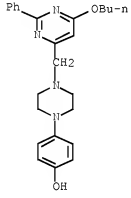

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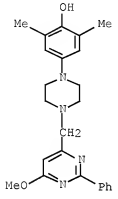

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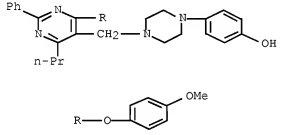

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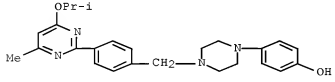

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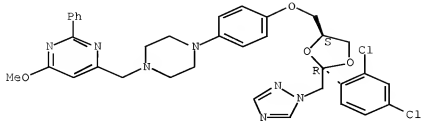
111920-67-3, Pyrimidine, 4-[[4-[4-[[(2R,4S)-2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]methyl]-6-methoxy-2-phenyl-, rel-,



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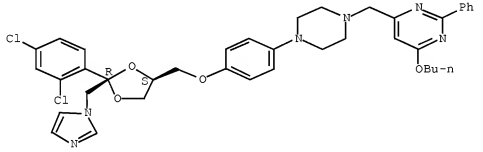
111920-68-4, Pyrimidine, 4-butoxy-6-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]methyl]-2-phenyl-, cis-,



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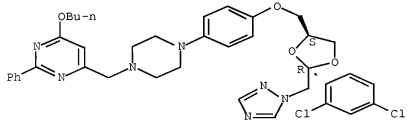
111920-69-5, Pyrimidine, 4-butoxy-6-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]methyl]-2-phenyl-, cis-,



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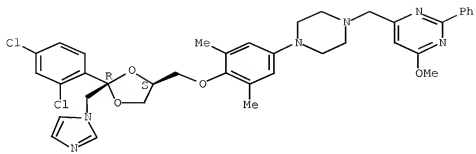
111920-75-3, Pyrimidine, 4-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]-3,5-dimethylphenyl]-1-piperazinyl]methyl]-6-methoxy-2-phenyl-, cis-,



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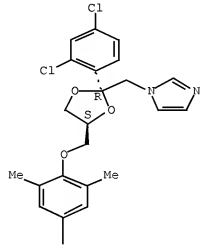
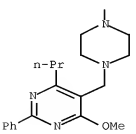
111920-90-2, Pyrimidine, 5-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]-3,5-dimethylphenyl]-1-piperazinyl]methyl]-4-methoxy-2-phenyl-6-propyl-, cis-,

PAGE 1-A



PAGE 2-A



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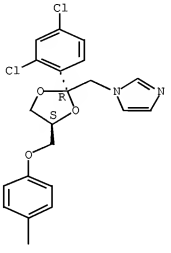
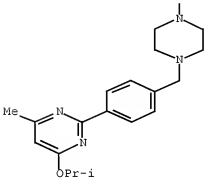
111920-95-7 Pyrimidine, 2-[4-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-

1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]methyl]phenyl]-4-methyl-6-(1-methylethoxy)-, cis-,

PAGE 1-A



PAGE 2-A



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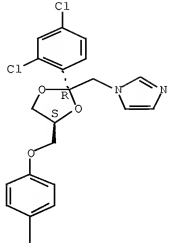
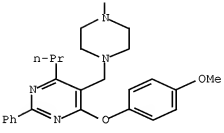
and 111943-51-2. Pyrimidine, 5-[[4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)- 1,3-dioxolan-4-yl]methoxy]phenyl]-1-piperazinyl]methyl]-4-(4-methoxyphenoxy)-2-phenyl-6-propyl-, cis-,

PAGE 1-A



PAGE 2-A



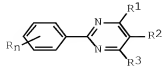
The claimed compositions are alkyl homologs and/or position isomers of Kampe compositions and obvious to the skilled chemist for the same utility. It would have been obvious to one of ordinary skill in the art when the present invention was made to modify the Kampe compositions to prepare alkyl homologs and position isomers thereof. One having ordinary skill in the art would have been motivated to prepare the instantly claimed compositions because such structurally homologous and position isomeric compositions are expected to possess similar properties. It has been held that compositions that are structurally homologous and position isomeric to prior art compositions are *prima facie* obvious, absent a showing of unexpected results.

An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed composition, in the expectation that compositions similar in structure will have similar properties. *In re Payne*, 203 USPQ 245, 254 (CCPA 1979). See also *In re Papesch*, 137 USPQ 43 (CCPA 1963) and *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1991) (discussed in MPEP § 2144) for an extensive case law review pertaining to obviousness based on close structural chemical composition similarity. See also MPEP 2144.08, ¶ II.A.4(c). Compositions that are homologs (compositions differing regularly by successive addition of the same chemical group, e.g., by CH3- groups) and position isomers (compositions differing by an adjacent or near adjacent functional group), as here, are generally of sufficiently close structural similarity that there is a presumed expectation that such compositions possess similar properties. *In re Wilder*, 195 USPQ 426 (CCPA 1977).

Response to Applicants' Remarks of 12-20-2010

In order to make the present rejection more understandable, the structures of the relevant compositions are illustrated above. As one of ordinary skill in this art can plainly see, each of the above Kampe compositions renders obvious the present claims.

Claims 1-6, 8-11, 13, 14 and 31-36 are rejected under 35 USC 103(a) over Seiler, et al., EP 136976, published 19850410.



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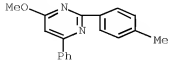
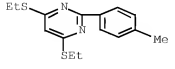
The phenylpyrimidines I (R = H, halo, NO2, CN, OH, alkyl, etc.; R1 and R2 = H, halo, alkyl, alkoxyalkyl, etc.; R3 = H, halo, alkyl, haloalkyl, or Ph) are plant growth regulators. See especially compositions of

RN 77232-23-6, Pyrimidine, 4-methoxy-2-(4-methylphenyl)-6-phenyl-,



, and

79382-50-6, Pyrimidine, 4,6-bis(ethylthio)-2-(4-methylphenyl)-,



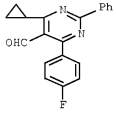
. The claimed compositions are alkyl homologs and/or position isomers of Seiler compositions and obvious to the skilled chemist for the same utility. See the discussion above of the obviousness of alkyl homologs.

Response To Applicants' Remarks of 12-20-2010

In order to make the present rejection more understandable, the structures of the relevant compositions are illustrated above. As one of ordinary skill in this art can plainly see, each of the above Seiler compositions renders obvious the present claims.

Claims 1, 11, 13, 31 and 40 are rejected under 35 USC 103(a) over Fujikawa, et al., US 5026708, issued 19910625, describing

RN 122930-78-3, 5-Pyrimidinecarboxaldehyde, 4-cyclopropyl-6-(4-fluorophenyl)-2-phenyl-,



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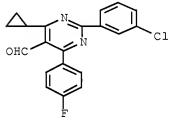
RN 122930-80-7, 5-Pyrimidinecarboxaldehyde, 2-(3-chlorophenyl)-4-cyclopropyl-6-(4-fluorophenyl)-,



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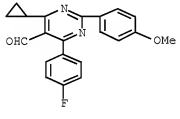
RN 122930-81-8, 5-Pyrimidinecarboxaldehyde, 4-cyclopropyl-6-(4-fluorophenyl)-2-(4-methoxyphenyl)-,



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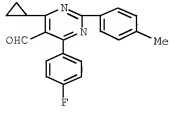
RN 122930-82-9, 5-Pyrimidinecarboxaldehyde, 4-cyclopropyl-6-(4-fluorophenyl)-2-(4-methylphenyl)-,



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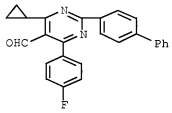
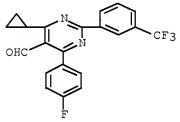
RN 122930-83-0, 5-Pyrimidinecarboxaldehyde, 2-[1,1'-biphenyl]-4-yl-4-cyclopropyl-6-(4-fluorophenyl)-,



, and

RN 122930-84-1, 5-Pyrimidinecarboxaldehyde, 4-cyclopropyl-6-(4-fluorophenyl)-2-[3-(trifluoromethyl)phenyl]-,



as antihyperlipemic agents. The claimed compositions are ring position isomers and/or alkyl homologs of Fujikawa compositions and obvious to the skilled chemist for the same utility. See the discussion above of the obviousness of alkyl homologs.

The claimed compositions are ring position isomers of Fujikawa compositions and obvious to the skilled chemist for the same utility. It would have been obvious to one of ordinary skill in the art when the present invention was made to modify Fujikawa compositions to prepare ring position isomers thereof. One having ordinary skill in the art would have been motivated to prepare the instantly claimed compositions because ring position isomeric compositions are expected to have similar properties. It has been held that compositions that are ring position isomeric to prior art compositions are *prima*

facie obvious, absent unexpected results.

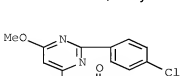
An obviousness rejection based on similarity in chemical structure and function entails motivation of one skilled in the art to make a claimed composition, in expectation that compositions similar in structure will have similar properties. *In re Payne*, 203 USPQ 245, 254 (CCPA 1979), *In re Papesch*, 137 USPQ 43 (CCPA 1963) and *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1991) (discussed in MPEP 2144) for an extensive case law review pertaining to obviousness based on close structural chemical composition similarity. See also MPEP 2144.08, ¶ II.A.4(c). Compositions that are ring position isomers (compositions differing by adjacent or near adjacent functional group) are generally of sufficiently close structural similarity that there is a presumed expectation such compositions possess similar properties. *In re Wilder*, 195 USPQ 426 (CCPA 1977).

Response To Applicants' Remarks of 12-20-2010

In order to make the present rejection more understandable, the structures of the relevant compositions are illustrated above. As one of ordinary skill in this art can plainly see, each of the above Fujikawa compositions renders obvious the present claims.

Claims 1, 11, 13, 31 and 40 are rejected under 35 USC 103(a) over Howe, et al., J. Med. Chem. (1972), 15(10), 1040-5, describing

RN 19899-98-0, 4-Pyrimidineacetic acid, 2-(4-chlorophenyl)-6-methoxy-, methyl ester,



compositions, as an anti-inflammatory. The claimed compositions are ring position

isomers and/or alkyl homologs of Howe compositions and obvious to the skilled chemist for the same utility. See the discussion above of the obviousness of ring position isomers and/or alkyl homologs.

Response To Applicants' Remarks of 12-20-2010

In order to make the present rejection more understandable, the structures of the relevant compositions are illustrated above. As one of ordinary skill in this art can plainly see, the above Howe composition renders obvious the present claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cecilia M. Jaisle whose telephone number is 571-272-9931. The examiner can normally be reached on Monday-Friday; 8:30 am through 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. If you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cecilia M. Jaisle/
Examiner, Art Unit 1624

/JAMES O. WILSON/
Supervisory Patent Examiner, Art Unit 1624